Intranets

A MONTHLY LOOK AT WEB DEVELOPMENTS BEHIND THE FIREWALL

NETWORK OPERATING SYSTEMS

The Road Not Traveled

Until recently NT seemed like the obvious intranet route, but shipment delays and performance problems are allowing other options back into the picture

By Laura DiDio

Against all odds, conventional wisdom and Microsoft Corp.'s relentless marketing campaign, the mass migration to Windows NT Server as the foundation of the corporate intranet has stalled.

Instead of taking the road not traveled — or in this case, the NOS not tried, true and tested — many businesses are staying put. They're opting to build intranets that run mission-critical applications on their existing network operating systems like NetWare,

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Unix and yes, even the much maligned OS/2 Warp Server.

Users, whose future roadmap a scant year ago had signposts marked "All NT" have, in many cases, revamped their plans. Their reasoning is simple: The NOS they have in place now works fine and Windows NT 5.0's ship date grows ever more elusive (it's now expected sometime next spring).

"Hurry up and wait doesn't cut it. The market isn't standing still and neither are the demands of our end users and customers for better services, connectivity and applications," observes Thad Hymel, distributed systems manager at Hibernia National Bank in New Orleans, which has 5,000 users in 250 sites throughout Louisiana and Texas.

"Even if Microsoft's NT 5.0 and Active Directory were available now," Hymel reasons, "we'd still keep NetWare and Novell Directory Services (NDS) as our enterprise NOS. It's taken them six years, but Novell worked out the bugs and now has directories down to an exact science," Hymel says. In pragmatic terms, that means Hibernia can manage all 250 remote sites via NDS with fewer than 20 network administrators. "A wholesale switch to Windows NT would have meant tripling our administrative staff," Hymel says.

Ditto for Bill Peel, senior technical manager at the Bank of Montreal which has 6,000 users in 450 branches throughout Canada and remains committed to OS/2 Warp Server even though industry pundits have declared the operating system dead on numerous occasions. "We're keeping OS/2

Warp. It's here and it works," Peel says.

OS/2 Warp provides the Canadian bank with a solid, extremely stable intranet foundation. "With OS/2 Warp Server we achieve better than 99.5% availability and with its software distribution facilities we have only a 2% to 3% failure rate, which is much lower than the industry average of about 5%

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> ### JON OLTSIK,
> ### FORRESTER RESEARCH, INC.
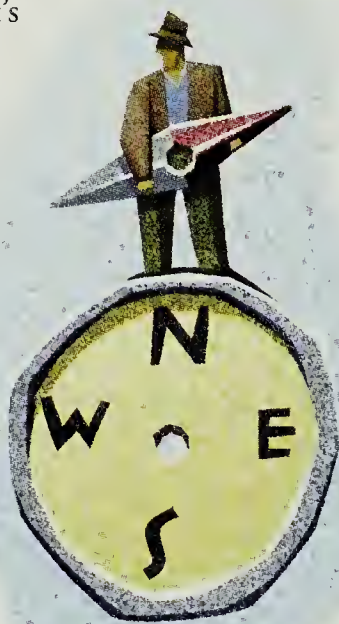
to 20% according to the Gartner Group," Peel says.

To be fair, NT has its share of die-hard proponents. Those who prefer NT as their intranet server like its tight integration with Windows 95 and NT Workstation desktops, as well as with Microsoft Office and BackOffice suite of applications.

And many big shops have already made the switch from their legacy network operating systems to NT, believing that despite everything the future belongs to Microsoft. They include Dana Corp. and Nabisco, Inc. as well as several of the big Wall Street brokerage houses.

Moreover, Windows NT Server is the fastest growing network operating system over the last two years, according to just about every market research firm. And it shows no sign of abating (see chart page 6).

But what a difference a year makes. Mike Kearney, vice president of information technology engineering at

Phoenix Home Life Insurance Co. in Enfield, Conn., is a longtime NetWare shop that's been steadily installing Windows NT Server as an applications server. The firm was among scores of users seriously contemplating "going all NT as soon as 5.0 with the Active Directory (see May Intranet Series) shipped," Kearney says. But 'soon' turned into too late for the insurance firm.

"We asked ourselves, 'who has a solid, stable network operating system with support for Java and advanced directory services?' " The answer is NetWare. No way would we risk building our intranets on NT domain directories," Kearney says.

Though IS managers' faith in the NetWare platform is generally unflagging, the same isn't true of the way businesses viewed Novell's continued viability in the wake of a series of missteps that included bad acquisitions, wholesale management shakeups and shriveling sales. Novell's business prospects have improved in the last year under new company chief executive Eric Schmidt who has stabilized operations and succeeded in getting the company back on track delivering products. And the company's financials, while not spectacular, are once again showing growth. In its second fiscal quarter ended April 30, Novell earnings were up 35% to $19 million on sales of $262 million, beating Wall Street's expectations.

And the vagaries of the networking industry over the past 12 months have similarly caused many users to switch strategies and have prompted industry analysts to revise their forecasts of "NT everywhere."

Matt Rice, vice president and senior network manager at USTrust Bank in Cambridge, Mass., sums it up this way: "[Because NDS exists now in NetWare 4.x,] there's just no compelling reason for us to install Windows NT 5.0 as an enterprise NOS. By the time it ships in 1999, we'll be running smack into the Year 2000 issue. Two headaches

of such magnitude would be more than we could bear," Rice says.

Especially since USBank, which has nearly 100 branches, has already worked through all the pain of the first three releases of NDS which Rice recalls "were pretty ugly" in the early '90s. "I don't want to start all over again if I don't have to," he says.

Jerry Ryan, manager of network services at Children's Hospital of Pittsburgh concurs. He recalls the "rocky start and instability" of NDS in Net-Ware 4.0. "There was hell to pay for a year and a half until we got NetWare 4.11. For two months all we did was troubleshoot and hunt for objects that mysteriously disappeared and reappeared off the directory tree," Ryan says.

He says he tells any pro-NT 5.0 and Active Directory factions at the hospital that he wouldn't even consider it "until Version 6.0."

"Fortunately, Novell is starting to come back. And I'm glad for selfish reasons, since I don't want to rip out and replace NetWare," Ryan adds.

An ancillary issue is the U.S. Justice Department's and states' ongoing probe of Microsoft for antitrust violations. While that doesn't directly affect NT deployment — at least not yet — users and analysts feel that the distraction of what's sure to be a protracted lawsuit will force Microsoft to take its eye off the ball.

In the meantime, Microsoft's competitors have been getting back on track. They're readying new versions of their operating systems — due out well in advance of NT 5.0 — that already feature more advanced directory services, clustering capabilities and better scalability than Microsoft's oft-delayed offering (see story at right).

The Bank of Montreal's Peel, for example, notes that while Microsoft's Windows Terminal Server will only begin shipping this month the bank has been using OS/2 Warp Server's thin-client configuration for six years. "We've gotten tangible benefits for a long, long

Dodging NT's Potholes

For all its dominance of the desktop, promises of tight integration between its operating systems, application suite and NT Server, the Redmond, Wash., firm's nearly limitless R&D dollars and an ever-growing community of third-party developers, the Microsoft juggernaut has hit a few major potholes.

First and foremost, the next generation of Windows NT Server is going to be late, very late. Windows NT 5.0, by Microsoft's own admission, now won't ship until at least second quarter 1999. It was originally expected late last year.

Even stalwart Microsoft proponents like Stu Sjouwerman, vice president of SunBelt Software, Inc., which distributes Windows NT third-party applications, concedes that "we will not see 5.0 in production until the year 2000 or later." But from his perspective, NT 5.0's tardi-

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BOB SAKAKEENY, ABERDEEN GROUP

ness is not necessarily a bad thing because it gives businesses plenty of time to prepare.

"NT 5.0 is enormous; it's more than twice the size of the current 4.0 due to the inclusion of many additional modules. And it may be three times larger as I keep on hearing about extra pieces of software that are getting included, like the recent Hewlett-Packard Co. and Computer Associates International, Inc. (network systems management) code," Sjouwerman says.

Late code from Microsoft is almost de rigeur. But there are other complications as well.

The first generation of any network operating system or software package is normally rife with bugs. But NT's current 33 million lines of code — triple that of archrival NetWare 5.0 which is slated to ship in volume this summer — will mean a lot of debugging for users who are working with essentially an entirely rewritten version of the operating system.

On top of that Microsoft executives have publicly admitted what's been an open secret in the networking industry for the last 18 months: NT Server has scalability problems. Microsoft has struggled to get Windows NT to scale beyond the current eight processors. By contrast, major Unix vendors like Digital Equipment Corp., HP and Sun Microsystems, Inc. have for years sold Unix servers that easily scale to 64 processors. Without high-level scalability and reliability, Windows NT cannot hope to displace Unix in data-intensive intranet environments, noted Bob Sakakeeny, an analyst at Aberdeen Group, a Boston consultancy.

Aberdeen Group, in fact, recently conducted a series of 10 case studies that examined long-term intranet deployment plans of very large organizations and found that "more than half the businesses which included banks, brokerages and a leading telecommunications firm were forced to abandon plans to migrate from NetWare, Unix and OS/2 Warp Server to NT because of scalability, reliability problems and the lack of an enterprise directory," Sakakeeny says.

And as if that weren't enough, the first two beta versions of NT 5.0 and its Windows Terminal Server, a.k.a. Hydra, thin client have been beset with bugs.

Adding to users' and Microsoft's woes is the forthcoming Year 2000 issue. Few are brave enough to want to tackle a new operating system with the Year 2000 date and time situation just months away.

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time. For instance, we only have to designate a single network administrator to manage 250 PCs," Peel says.

For staunch IBM OS/2 Warp Server loyalists weary of constantly justifying their continued use of the operating system and the dearth of third-party applications for the platform, the availability of Java applications holds incredible allure. Once Java applications begin shipping en masse, it will make the issue of the underlying network operating system a moot point.

Novell has also improved its core NDS database with new features like Catalog Services, which lets network managers create lightweight indexes of directory objects and attributes. The end result is faster, more efficient directory searches. The latest version of NDS also includes a WAN Traffic Manager to enable administrators to define cost-based WAN connections and policies and support for LDAP Version 3.0.

Jon Oltsik, an analyst at Forrester Research, Inc. in Cambridge, Mass., says such leading-edge features in NDS as automatic software distribution and updates and tree pruning are arriving

just when users really need them. They're also helping to recast Novell's image as a "legacy file and print network operating system."

"NDS and NDS for NT work and they're here now. Windows NT 5.0 and the Active Directory are still slideware, and users can't deploy promises," Oltsik says. The real test though, he says, will come when Novell delivers the native version of NDS for NT sometime in the second half of this year. That standalone product, which won't require users to run NetWare, may represent Novell's best chance to leverage NDS as a service to and well beyond the installed base of NetWare customers, Oltsik says.

USTrust Bank is a case in point. Rice says he was able to quantify to management that 30% of the calls to USTrust's help desk are related to password synchronization problems. This will be resolved by native NDS for NT. "I told my bosses it presently takes 20 minutes to fix that problem and we have 2,000 users. Native NDS for NT will eliminate it entirely," Rice says.

Still, there is no denying the impressive gains racked up by NT Server over

the last 18 months — some of it in entirely new installations and some of it at the expense of competitors. And users acknowledge that Windows NT Server is the network operating system of choice when deployed as a departmental applications server.

An IS manager at one of the nation's largest brokerages that made a wholesale switch to NT in 1997, and who requested anonymity, said he's been "very pleased with NT's performance and reliability." The brokerage has sidestepped the management problems and myriad trust relationships associated with creating multiple domain directories by creating a single master domain to manage its entire enterprise.

"It works fine, we haven't had any problems, and Microsoft has more than kept its promises to us. From our vantage point, we wanted to move beyond NetWare's legacy file and print. Applications are the most important thing to us and nobody handles applications better than NT," the IS manager says.

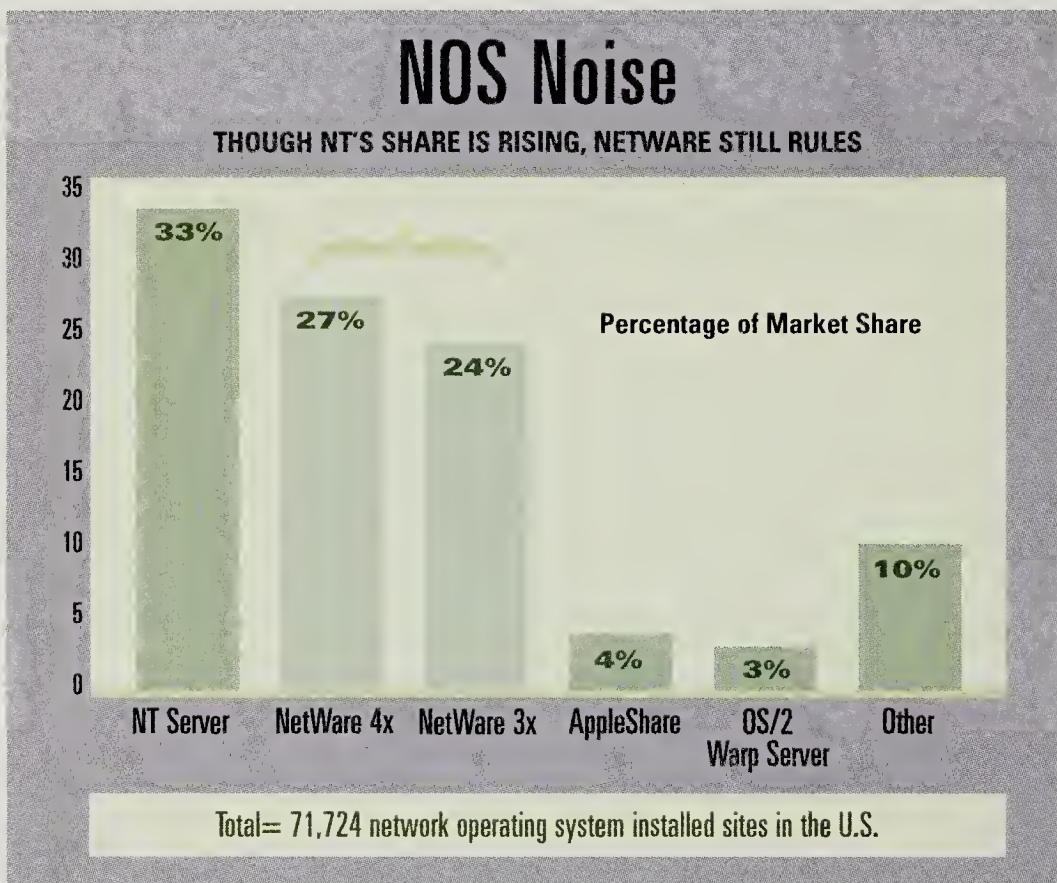But the intranet platform of choice for the masses, it is NOT — at least not until Windows NT 5.0 ships in 1999.

Phil Easter, technology strategist at Greyhound Lines, Inc. in Dallas sums up the feelings of many users who have decided to stick with NetWare: "There's no business benefit to switching to NT. If I were to rely on NT to get me to the Promised Land I'd be wandering around in the desert waiting for Microsoft to get its act together for another four years — way beyond the millennium."

DiDio is *Computerworld*'s senior editor, security and network operating systems.

NOS Noise
THOUGH NT'S SHARE IS RISING, NETWARE STILL RULES

Percentage of Market Share

NT Server	NetWare 4x	NetWare 3x	AppleShare	OS/2 Warp Server	Other
33%	27%	24%	4%	3%	10%

Total= 71,724 network operating system installed sites in the U.S.

Source: Computer Intelligence

NT Not Too Rich For Frozen Food Maker

By Steve Alexander

An initial intranet being installed at Rich Products Corp., a $1 billion privately-held frozen food company in Buffalo, N.Y., is expected to save $100,000 or more annually by automating business applications and improving communications. By year's end, the intranet will be rolled out to 1,200 to 1,500 workers, about 20% of the firm's work force. Though Unix was considered, the company went with Windows NT as the underlying operating system to complement its investment in Windows desktops and to leverage earlier availability of application development tools for its Oracle enterprise database. Mike Crowley, a Rich Products vice president and chief information officer, explains the project.

WHAT THEY'RE DOING
The three key business applications on our intranet are comparative sales reporting, order status and a nutritional information directory.

The next 12 applications are publishing-type applications, and rather than prioritizing them, we decided we would just do them all in about 90 days.

The intranet has been up for about 120 people in our information systems department for about a month, and we are rolling it out to three more departments and another 50 people this month. Rollout to the rest of the company will begin within two months.

HOW THEY'RE DOING IT
Comparative sales reporting replaces a number of applications used today to generate printed sales analysis reports that go to our people in the field. But invariably these printed reports arrive too late to be of major value. The intranet application would give us the ability to do the analysis, then publish it to a Web site. The order status application would go to our brokers or independent salespeople. It would allow the broker to avoid making calls to our help desk and customer service department to find out the status of an order or shipping dates.

Because we are a food manufacturer (selling primarily to restaurants through brokers), we would publish to the Web site our nutritional information in conformance with regulatory requirements. This would get rid of all the paperwork, and customers, brokers and food distributors would have a much better source of information that's always current.

The intranet also gives us a chance to have standardized sales presentations that are made available to all salespeople. It would be like a Microsoft PowerPoint presentation; you could just download it, or hook up to the Web while you're in a customer's office and look at it.

BENEFITS
It's very hard to quantify the benefits of getting comparative sales analysis infor-

> "The intranet would give us the ability to do the [sales] analysis, then publish it to a Web site."
>
> **MIKE CROWLEY**
> VP and CIO
> Rich Products Corp.
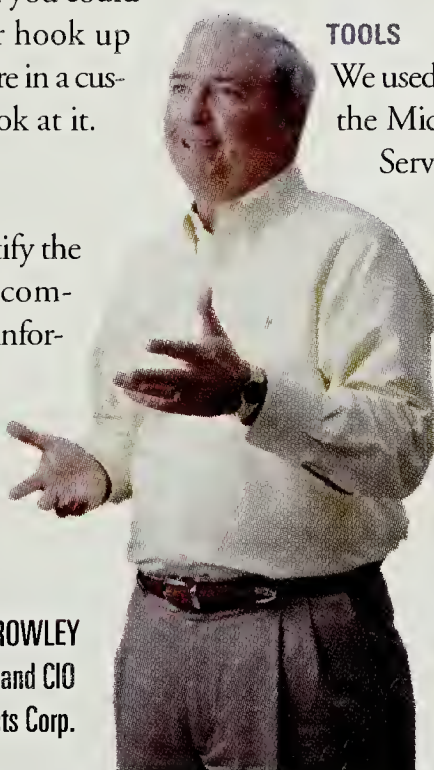
mation to salespeople more quickly, but we think it could be worth $50,000 to $100,000 annually. The nutritional information might be worth $15,000 to $30,000 annually in saved phone calls. We think there's an even bigger payback for the order status application, but we don't have a good estimate.

COSTS
The 15 applications, plus what we've spent already, will cost a total of $100,000 to $150,000. We believe we can recoup that, and maybe more, with the intranet.

TECHNICAL CHALLENGES
In the long run, we'll have certain applications that will be more appropriate for the management group and others that will be of more interest to the hourly workers. We'll need some type of security system to control access, but we've not made those choices yet.

TOOLS
We used Oracle Developer 2000 and the Microsoft suite of tools for NT Server.

ADVICE TO OTHERS
One of the dangers is over-analyzing the many development tools available. Intranet technology is relatively inexpensive, so it's practical to learn by doing. Just get your feet wet and learn it on the fly.

Alexander is a freelance writer in Edina, Minn.

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